



**A summary of freight issues raised in selected Multi-Modal and
Roads-based studies with reference to the North West of England**

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1. Introduction

In May 2001, consultants commissioned by the North West Regional Assembly completed their work on a freight strategy scoping study. This reviewed available data and key issues, proposed further data collection requirements and identified possible options for solutions and policies. Following this work, the Assembly decided to establish a small group representing freight interests to develop the regional freight strategy.

It was felt that the outcomes from recently completed transport studies undertaken within the region may include freight elements and that these studies should therefore be reviewed as a small desk-top exercise to inform the regional freight strategy development. This report presents the results of that review.

2. Deeside Park Junctions – Final Report

This is a roads-based study which resulted in a recommended plan comprising five options

- On-line grade separation along the A5117 and A550
- Facilities for non-motorised users, including the mobility impaired
- Comprehensive review of public transport facilities
- Better information on public transport services and availability
- Set up a freight quality partnership

From the freight point of view, the specific highway improvement option was seen as a longer-term element. The Freight Quality Partnership had a medium term timescale. The report comments in general terms ‘..on the potential for developing operational practices which encourage goods vehicle movement away from peak hour congestion periods, and look at the options and benefits of alternative modes of transport..’ and lists the requirements for an effective partnership, relating to ‘..composition, scope and clearly defined objectives..’. This option in the report draws on responses from a freight industry consultation exercise. The results identified an expected 29% growth in freight vehicle movements over three years, with the prospect of a greater increase if Deeside Industrial Park is developed further. In terms of the potential for mode shift, it was reported that improved rail infrastructure and cost reduction were the important requirements. However, just 10% of current volume was identified as capable of mode transfer.

3. A5/A483 Shrewsbury to Chester Road Based Study

There is little explicit reference to freight in this report. There is some comment on HGV movements (Section 4.3) which identifies that the proportionate share of such vehicles (between 8 and 17%) is higher than the national average. It is noted that the impact of goods vehicles is greater on the narrower single carriageway sections during off-peak periods.

There was a small response to the freight questionnaire (42 responses from 230 companies). Such companies were, in the main solely roads based and expected an average growth of 15% over three years. Sections of the route in question were equally used, with the exception of the Oswestry bypass, which was used more extensively. There was general reference to problems caused by HGV and agricultural traffic and to the substandard nature of the route in terms of TEN specifications.

From the point of view of freight movements and HGV impact, the conclusions identify platooning of slow vehicles as a major issue in terms of congestion and safety. A Highway Improvement Strategy is proposed to address these issues. It is expected to reduce congestion and encourage more efficient freight movements.

4. A66 Safety Study

Proposals to improve the A66 have been outlined in a recent report to the Highways Agency. However, the report identifies a potential modal shift of no more than 2% away from roads in the corridor and therefore does not develop this within the context of investigating safety improvements. Recommendations focus on dualling and, within a shorter timescale, on at-grade junction improvements and speed management. However, it notes the need for ‘...further studies into the potential for modal switch of both passengers and freight in both the local and regional context...’.

5. West Midlands to North West Conurbations Multi-Modal Study (MIDMAN)

This is a substantial study with wide-ranging terms of reference, all of which have a relevance to freight transport. Explicit mention is included in the need to study ‘the potential role of public transport in improving accessibility between the conurbations for both freight and passengers’. Similarly, the locational issues to be addressed are all relevant, but particularly the ‘capacity constraints on the West Coast Main Line (WCML) between the West Midlands and the North West and its ability to significantly increase freight movements and affect modal transfer..’.

Within Chapter 3, on problems, issues and objectives, freight is given its own section (Section 3.5). Having summarized the typical freight movements, trends and problems it recognizes that even with significant movement of traffic away from roads-based modes, a primary corridor objective is necessary as follows:

- To enable the M6 to retain a strategic role for road freight.

Rail freight capacity is currently centred on the West Coast Main Line (WCML) and the major conurbations around Manchester and Birmingham but rail is viewed by freight operators as having disadvantages in terms of cost, journey time and reliability. A number of improvement schemes have been proposed by a range of agencies. These schemes include WCML upgrades; alternatives to WCML by enhancing the line from Felixstowe to Nuneaton; structure gauge improvements between Southampton and the West Midlands; creating a third Anglo Scottish freight route; upgrading corridors in the West Midlands; specific proposals from the Strategic Rail Authority (SRA) Freight Small Scheme Fund; improvements to increase freight capacity on the Sheffield-Manchester, Leeds-Manchester routes and to create diversionary routes around Manchester and the Central Railway proposal for a new rail route between Lille and Liverpool.

Within the summary of study problems, which includes general issues relating to congestion, reliability, safety, environment and economic/social impact there is specific reference to

- Increased road freight costs as some operators adopt off-peak hours travel to minimise impact of M6 problems
- Tension between demands for passenger and freight train paths on WCML
- Rail not competitive for freight on reliability, time and cost
- Rail gauge constraints, generally remote from the Midman corridor, affecting freight usage

The Chapter on consultation and liaison, Chapter 4, identifies a wide range of rail studies, including the West Coast Main Line Freight Routeing Strategy 2000-2009 and the Strategic Rail Authority's Freight Strategy which are critical to the success of the Midman proposals.

Chapter 5, on strategy development, presents four core scenarios for Public Transport; Highway Improvement; Making Best Use/Highway Demand Restraint and Freight. The freight scenario was '...primarily designed to attract freight from road to rail..'. It included loading gauge and capacity enhancements, climbing lanes on highway links and air freight issues. A sensitivity test on the possible impact of the Central Railway proposal determined that any resulting transfer of freight traffic from the M6 would be only a small percentage of such vehicles on the motorway. The conclusion, therefore, was that this proposal was not that relevant an issue.

In the appraisal Chapter, Chapter 6, the importance of the national approach of the Strategic Rail Authority in relation to freight support payments and the allocation of track space is highlighted. It was felt that for the combination scenarios considered, achieving rail freight capacity would be complex, requiring new infrastructure outside the corridor, such as the Third Anglo-Scottish Freight Route.

The combination scenarios considered were found to satisfy the specific objective of enabling the M6 to retain a strategic role for road freight. Tolling on the M6 was a component of two of the combination scenarios. The view was that many road freight operators would be willing to pay tolls, if set at reasonable levels, for the reliability benefits which would be gained. However, there was some concern about the effect on parallel routes where traffic flows would increase.

In the discussion, it was summarized that, inevitably, the majority of goods in the corridor would continue to be carried by road although there should be support for encouraging rail freight.

The recommended strategy assists road freight through the provision of M6 widening, climbing lanes and other highway measures. The strategy also supports the implementation of realistic opportunities to maximize the volume of rail freight. The main priority is to protect and enhance capacity on the WCML. The strategy considers that transfer of traffic from road to rail is unlikely beyond 2011 because of rail capacity constraints and economic forces. The report encourages the SRA to address issues of increased north/south rail capacity after 2011. The strategy also encourages local authorities to promote Freight Quality Partnerships, rail freight facilities and terminal capacity outside the study corridor.

6. South East Manchester Multi Modal Study

According to paragraph 6.51 in the final report, the study area from a freight point of view, is mainly used for:

- goods transiting the area by road but also by rail, the latter mostly being to transport maritime containers and construction materials, and
- dispersed collection and delivery of vehicle loads
- final delivery to retail outlets in HGV or van loads.

The study approach was to consider and appraise a number of decision areas (freight, passenger transport and road) and identify how policy actions would work in combination.

The freight strategy identified limited opportunities for new inter-modal facilities or for opening disused rail links in the study area compared with neighbouring areas. The principal opportunity is for the reopening of the Woodhead line to traffic. An inter-modal facility at Guide Bridge is also a possibility.

The study acknowledged that schemes outside the study area could have an important influence on the freight movements within it. Regional/national schemes such as building a Northwest railhead for piggyback movements or developing a Trans-Pennine link would have the effect of diverting traffic. Similarly decisions on passenger rail options would have an impact on strategic rail freight capacity. In this regard, an important rail freight movement from Manchester to Dove Holes quarries

was noted in addition to issues concerning relieving West Coast Main Line congestion.

There is a need to develop inter-modal traffic by developing a new site to absorb growth focused on Trafford Park or improve access to Trafford Park. Once again, these issues which are external to the Study area have an impact in that, until they are implemented, the rail freight capacity of the link from the West Coast Main Line to Manchester Piccadilly remains a priority.

The options considered in the freight element of the study include a 'do-minimum' strategy which is a continuation of existing policy measures and a 'do-minimum plus' strategy includes a range of freight-focused actions possible within the infrastructure provision. Such measures would include:

- identifying and signing suitable road freight corridors;
- improving road surfaces to reduce noise and damage to goods;
- using freight-focused traffic calming measures to reduce rat running;
- partnership with Derbyshire quarry owners to encourage increased use of the rail mode;
- promotion of rail-side development;
- promotion of rail freight grant initiatives;
- preservation of existing rail freight capacity for through traffic.

Options involving new road investment were required to be attractive to freight vehicles but take account of the need to avoid the shift of traffic from rail to road. Possible measures could include enhanced freight corridors containing dedicated freight lanes, restricting freight use of minor roads and development of the rail network to support the rail freight demand.

Additional strategy options included providing a separate freight facility site close to Manchester Airport with a dedicated link for access and encouraging land use options which include rail-side development and direct rail access.

The recommended strategy (Chapter 7) notes the general benefits for freight movement arising from specific road schemes and from the Greater Manchester Strategic Rail Study. For the short term until such schemes are implemented, it notes the importance of Freight Quality Partnerships in particular relating to:

- stone traffic from the Peak District
- deliveries to major retail establishments
- freight traffic to/from the airport
- deliveries to/from significant industrial areas

The report notes the role of quality partnerships in terms of, for example, the timing of goods vehicle movements (outside peak periods), developing routeing strategies and assessing alternative modes. Specific mention is included for a goods vehicle network of preferred routes, properly signed and maintained. This could be reviewed after implementation with a view to assessing the reallocation of road space.

The Stanley Green area by the A34/A555 intersection and West Coast Main Line offers multi-modal access and is recommended as one site which could be investigated as a possible location for Airport satellite freight specific activities. Possible impacts and benefits would require careful study and there may be more appropriate locations outside the area.

Proposed land use strategies rely on the use of industrial and commercial zoning focused on sites with the necessary road and rail access.

7. Summary of Key Points Arising from the Desktop Review

The studies provide an insight into opportunities for meeting the aims and objectives of the regional freight strategy. Such aims and objectives seek to address:

- the promotion of sustainable development
- the attraction and retention of inward investment in the North West by improving the accessibility of freight transport operations
- the provision of a vibrant, efficient and safe regional freight industry
- the involvement of public and private sectors and the creation of a better understanding of freight logistics.

Underlying any analysis of freight transport within the region must be a recognition of the way in which the characteristics of the cargo and needs of the client have a major role in determining the mode of transport. The London to South West and South Wales Multi-Modal Study (SWARMMS) included a very detailed report on Inter-Modal Freight. It concluded that ‘...rail’s strengths are carrying large volumes of goods over long distances, but that rail is constrained by high terminal costs (loading and unloading), particularly where additional transport legs are needed to complete a trip, and a restrictive structure gauge that prevents tall or wide loads being carried by rail...’ The SWARMMS report looked at the amount of cargo required to support a freight rail service (in terms of volume and distance and the need for inter-modal transfers) and found that ‘for rail service to be frequent enough to compete with road on service level and cheap enough to compete with road on cost while remaining commercially viable, there needs to be a large market with a potential for mode switching – 500 tonnes of goods per train on a daily train equals 125,000 tonnes per year.’

The studies considered here have also noted the special requirements when operators have to meet ‘just-in-time’ constraints. Collection and delivery to dispersed destinations and final delivery to customers are roads-based. Construction materials and other primary commodities may be suitable for rail. However, investment in fixed rail freight facilities requires evidence that the market is there. As land-use activities change and transport demands respond, then the viability of special rail infrastructure may be threatened. A good example in the region is at Deeside where the requirements to move goods to and from the steelworks at Shotton historically

provided a sound justification for a rail freight operation. Other industry at Deeside, such as papermaking could then benefit from the investment, but with the contraction of the steelworks there is a danger that the rail infrastructure could become unsustainable.

Clearly, then land use and the spatial development of industrial locations will have a bearing on mode of freight transport. Our case studies identify Manchester Airport as a specific freight traffic generator which requires careful access planning. The need for inter-modal freight terminals is also highlighted. Development planning will require authorities to make use of industrial and commercial zoning, taking account of the need for appropriate road and rail access.

Having considered how freight traffic is generated, taking account of both the spatial distribution of activities and the nature of the goods, it is nevertheless true that there is little expectation of significant transfer of traffic from road to rail. The West Midlands to Manchester study confirms that the M6 is seen as retaining a strategic role for freight and that transferred traffic will not be significant. No transfer beyond 2011 is assumed. The A66 safety study found potential for transfer of less than 2%. Road improvements therefore form a central part of the various study proposals. It is expected that HGV movements will benefit from any specific and local improvements – there are many such schemes presented in the reports and these have not been separately listed here. Specific types of measure which will have a particular impact on HGV's include the provision of climbing lanes, overtaking sections and dual carriageways. These help in reducing delays, improving journey times and reliability, reducing platooning and minimising potential conflicts. Further benefits for freight operators may be achieved through selective road pricing such as on the M6, but operators would need to carefully assess the benefits in terms of improved journey-time reliability, for example, against the extra costs and the effects of displaced traffic.

One also has to bear in mind the danger that improving the attractiveness of roads-based freight movement will result in further transfers of traffic from rail. The two multi-modal studies considered here identified a large number of potential improvements required to maintain or enhance rail capacity. Some individual schemes are noted earlier in this report and in more detail in the studies themselves. Common themes, however, relate to:

- the importance of the upgraded West Coast Main Line
- the role of the Strategic Rail Authority and other agencies in bringing forward appropriate schemes, with the necessary co-ordinated planning
- the influence of rail capacity developments outside the region on rail freight to, from and through the North West
- the relationship between the competing demand for passenger and freight movements on the railways.

Developing new rail capacity, then, will be a complex and long term objective. For the short term, the studies attach some importance to the benefits to be achieved from Freight Quality Partnerships. In some cases (for example the Deeside Park Junctions

Report), these are proposed in general terms with comments on how they can be most effectively established and utilized. Other studies are more specific in listing the sort of measures which such partnerships can promote such as maintaining and enforcing preferred freight routing strategies.

Overall then, this small desktop study has found the main freight related issues in the resource documents to be based on:

- the nature of the goods and the spatial distribution of industry in influencing the type of transport mode.
- the need to provide for the requirements of roads-based goods movements both within any specific new road proposals or by measures which have a more direct impact, such as climbing lanes. This responds to the assumption that significant transfer of traffic away from roads is unlikely.
- the need to maintain and enhance rail capacity, particularly on WCML, noting also the influence of the many agencies involved (notably the SRA) and the potential impact of capacity changes outside the region.
- in the short term, the need for Freight Quality Partnerships as a means of providing a co-ordinated focus for progressing specific initiatives and improving understanding of the industry.

8. Bibliography

- 1) *A5/A483 Shrewsbury to Chester Road Based Study - Final Report* (April 2002), prepared by Baktie Group (in association with the Government Office for the West Midlands & The Highways Agency).
- 2) *Deeside Park Junctions - Final Report* (October 2001), prepared by Maunsell Transport Planning (in association with The Highways Agency).
- 3) *South East Manchester Multi Modal Study (SEMMMS) - Final Report* (September 2001), prepared by Steer Davies Gleaves, Llewelyn-Davies and WSAtkins.
- 4) *West Midlands to North West Conurbations Multi-Modal Study - Final Report* (March 2002), prepared by Ove Arup & Partners Ltd and Scott Wilson Kirkpatrick & Co Ltd. (in association with John Fearon Consultancy, Social Research Associates, Transport Research Laboratory and Transportation Planning (International) Ltd).